



Lynred's NGP infrared detector to fly on Copernicus CO2M satellite mission

Thales Alenia Space selects Lynred's large SWIR detector, NGP (Next-Generation Panchromatic), to enable its spectral imager to cover a high number of wavelengths of interest, as well as a large swath, for major Earth observation satellite mission

Grenoble, France, May 26, 2021 – Lynred, a leading global provider of high-quality infrared detectors for the aerospace, defense and commercial markets, today announces that Thales Alenia Space, a joint venture between Thales (67%) and Leonardo (33%), has contracted it to supply its large shortwave infrared (SWIR) detector, NGP (Next-Generation Panchromatic), for the CO2M mission, as part of Europe's Copernicus program. Copernicus is the core satellite Earth observation program of the European Commission and a cornerstone of the European Space Agency (ESA) activities in the field as well.

Thales Alenia Space - contracted by OHB System, the prime contractor of the [CO2M](#) (Carbon Dioxide Monitoring) project - will integrate Lynred's NGP SWIR detector in a spectral imager instrument. The spectral imager is designed to measure the quantity of CO₂ gas in the Earth's atmosphere generated by human activity. As part of the payload, Lynred will participate in playing a key role in studying the causes of climate change and monitoring it.

"Thales Alenia Space has a long track of record of using Lynred infrared technology and detectors in space projects. Given its space heritage and the availability of the NGP detector, Lynred was the logical choice for the CO2M project," said Jean-Philippe Fayret, CO2M instrument project director at Thales Alenia Space.

Previous space project contracts Thales Alenia Space has awarded Lynred include the MTG FCI (Flexible Combined Imager) and the MTG IRS (Infrared Sounder).

"Lynred is honored and excited to once more collaborate with Thales Alenia Space, this time on the CO2M mission, one of Copernicus' major programs," said Philippe Chorier, space business development manager at Lynred. "Our NGP is well adapted for imaging and hyperspectral applications to enhance the ability of scientists to correctly identify and characterize chemical phenomena with the right spatial accuracy. The data provided by the CO2M mission will significantly reduce current uncertainties in carbon dioxide emission estimates, at national and regional scales."

NGP SWIR detector key features

NGP is the first large format SWIR flight model in a class higher than 1k² developed by a European firm:

- It covers wavelengths of interest in the SWIR region, corresponding to the absorption of different elements present in the atmosphere (e.g. CO₂, NO_x, CH₄, etc.)
- The format is well suited to meeting the current requirements of spectro-imager instruments, notably the swath cover (the area imaged on the Earth's surface) as well as the spectral resolution



- Radiometric performances are also well adapted to meet the signal-to-noise ratio parameters of the atmosphere chemistry applications required, such as in the CO2M mission

Flight models of NGP are currently deployed in instruments onboard other environmental space observation missions, showing the remarkable performance and reliability of this high-end large format SWIR detector. These missions include the Sentinel 5 ESA instrument onboard the METOP-SG platform and the French space agency CNES' Microcarb.

Lynred will host the webinar: '**How infrared imaging applications became a key asset in Earth observation from space**' on June 3, 2021, at 09:30 (CET). Click here to [Register](#).

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Note to editor

- Copernicus is the core satellite Earth observation program of the European Commission and a cornerstone of the European Space Agency (ESA) activities in the field
- It provides Earth observation data for environmental protection, climate monitoring, natural disaster assessment and other social tasks
- CO2M will measure images of total column CO₂ with the resolution, accuracy, time sampling and spatial coverage required to provide the key space component input of the Operational Anthropogenic CO₂ Emissions Monitoring & Verification Support (MVS) Capacity
- The atmospheric measurements made by the combination of satellites and in-situ networks will provide Europe with a unique operational capacity that will contribute to the global monitoring of fossil CO₂ emissions

https://www.esa.int/Applications/Observing_the_Earth/Copernicus/Copernicus_expansion_missions

About Lynred

Lynred and its subsidiaries, Lynred USA and Lynred Asia-Pacific, are global leaders in designing and manufacturing high quality infrared technologies for aerospace, defense and commercial markets. Lynred, a merger between Sofradir and ULIS, has a vast portfolio of infrared detectors that covers the entire electromagnetic spectrum from near to very far infrared. The Group's products are at the center of multiple military programs and applications. Its IR detectors are the key component of many top brands in commercial thermal imaging equipment sold across Europe, Asia and North America. The organization is the leading European manufacturer for IR detectors deployed in space.

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